

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of October 22, 2008 is respectfully requested.

By this Amendment, claims 73, 74, 78-80 and 84 have been amended. Thus, claims 73-84 are currently pending in the application. No new matter has been added by these amendments.

On page 3 of the Office Action, the Examiner rejected claims 74 and 80 under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, the Examiner indicated that the phrase "said cooling holes are not drilled through" is unclear as to what "drilled through" would require (*e.g.*, drilled through the entire component, or drilled through any surface). In this regard, it is noted that claims 74 and 80 have been amended to recite that the cooling holes "are not drilled through an entirety of the component."

Further, the Examiner also noted that the phrase "said cooling holes are not drilled through" is unclear as to when the coating holes would be drilled through. In this regard, the Examiner notes that the timing of the holes being drilled through can occur anywhere in the process. However, it is noted that claims 74 and 80 depend from claims 73 and 79, respectively, which each recite a method of forming a thermal barrier coating. Thus, it is respectfully submitted that one of ordinary skill in the art would recognize that the cooling holes are not drilled through an entirety of the component (as recited by claims 74 and 80) during the method of forming the thermal barrier coating recited by claims 73 and 79.

Therefore, for the reasons discussed above, it is respectfully submitted that the Examiner's formal rejections under § 112 are not applicable to amended claims 74 and 80.

On page 4 of the Office Action, the Examiner indicated that claims 78 and 84 both depend from claim 73, and are substantial duplicates of each other. Thus, the Examiner indicated that if one of claims 78 and 84 is found allowable, the other of the claims will be objected to under 37 CFR 1.75 as being a substantial duplicate of an allowed claim. In this regard, it is noted that claim 84 has been amended so as to depend from claim 79. Therefore, it is respectfully submitted that claims 78 and 84, as amended, are not substantial duplicates of each other.

On pages 5-8 of the Office Action, the Examiner rejected claims 173, 74, 76-80 and 82-

84 under 35 U.S.C. § 103(a) as being unpatentable over Clingman et al. (US 5,130,163) in view of Kang et al. (US 5,800,695). On pages 8-9 of the Office Action, the Examiner rejected claims 75 and 81 under 35 U.S.C. § 103(a) as being unpatentable over Clingman in view of Kang, and further in view of the admitted state of the prior art. For the reasons discussed below, it is respectfully submitted that the amended claims are clearly patentable over the prior art of record.

Amended independent claim 73 recites a method of forming a thermal barrier coating on a surface of a component having cooling holes. The method of claim 73 includes forming masking pins in the cooling holes by filling each of the cooling holes with a liquid elastic body *while adjusting an amount of the liquid elastic body in the cooling holes so that the liquid elastic body is reduced in volume with hardening thereof*, and by thereafter hardening the liquid elastic body in the cooling holes, wherein the masking pins do not protrude above the surface of the component. Further, claim 73 recites forming the thermal barrier coating on the surface of the component by spray coating after the forming of the masking pins.

Amended independent claim 79 recites a method of forming a thermal barrier coating on a surface of a component having cooling holes. The method of claim 79 includes forming masking pins in the cooling holes by filling each of the cooling holes with a liquid elastic body *while adjusting an amount of the liquid elastic body in the cooling holes so that the liquid elastic body is reduced in volume with hardening thereof*, and by thereafter hardening the liquid elastic body in the cooling holes, wherein the masking pins do not protrude above the surface of the component. Further, claim 79 recites blasting the surface of the component so as to coarsen the surface of the component, and forming the thermal barrier coating on the surface of the component by spray coating after the forming of the masking pins and the blasting of the surface of the component.

Clingman discloses a coating method which, as shown in Figs. 2-4, includes maskant plugs 30 being formed in side perforations 22 of an inside lamina 12. However, Clingman does not disclose forming masking pins in the cooling holes by *filling each of the cooling holes with a liquid elastic body while adjusting an amount of the liquid elastic body in the cooling holes so that the liquid elastic body is reduced in volume with hardening thereof*, as required by independent claims 73 and 79. Rather, Clingman discloses liberally applying a viscous

spreadable maskant 28 to the exposed side 20 of an inside lamina 12, as shown in Fig. 3, and does not disclose forming masking pins in the cooling holes by filling each of the cooling holes with a liquid elastic body while adjusting an amount of the liquid elastic body in the cooling holes so that the liquid elastic body is reduced in volume with hardening thereof, as required by independent claims 73 and 79.

Kang discloses a coating method which, as shown in Figs. 1 and 3, includes filling cooling holes 4 of a turbine blade 1 with a maskant injected through cooling passages 2 in the root 3 of the turbine blade. However, Kang does not disclose forming masking pins in the cooling holes by filling each of the cooling holes with a liquid elastic body while adjusting an amount of the liquid elastic body in the cooling holes so that the liquid elastic body is reduced in volume with hardening thereof, as required by independent claims 73 and 79.

Therefore, as none of the Clingman and Kang references discloses a method which includes forming masking pins in the cooling holes by filling each of the cooling holes with a liquid elastic body while adjusting an amount of the liquid elastic body in the cooling holes so that the liquid elastic body is reduced in volume with hardening thereof, as required by independent claims 73 and 79, it is respectfully submitted that the combination of the Clingman and Kang references does not disclose or suggest a method which includes forming masking pins in the cooling holes by filling each of the cooling holes with a liquid elastic body while adjusting an amount of the liquid elastic body in the cooling holes so that the liquid elastic body is reduced in volume with hardening thereof.

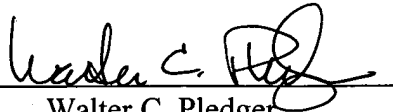
Therefore, for the reasons presented above, it is believed apparent that the present invention as recited in independent claims 73 and 79 is not disclosed or suggested by the Clingman reference and the Kang reference taken either individually or in combination. Accordingly, a person having ordinary skill in the art would clearly not have modified the Clingman reference in view of the Kang reference in such a manner as to result in or otherwise render obvious the present invention of independent claims 73 and 79.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice to that effect is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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